

GT	TAA	ACC	CAC	ACT	ATC	ATG	CAA	AAG	GGT	GTA	GGG	TTA	CTG	AGG	ACA	GTT	50
						Met	Gln	Lys	Gly	Val	Gly	Leu	Leu	Arg	Thr	Val	
						1				5					10		
CCC	TTG	GTA	CCT	TCA	GTC	TCT	GGT	CAG	ATT	GAC	CTT	TTG	GTA	CTG	TGT	98	
Pro	Leu	Val	Pro	Ser	Val	Ser	Gly	Gln	Ile	Asp	Leu	Leu	Val	Leu	Cys		
			15					20					25				
ATG	TGT	ATA	AAA	ACG	ACT	ACT	CCT	CAT	ATA	TTT	ATT	TCT	GAT	TAT	AAG	146	
Met	Cys	Ile	Lys	Thr	Thr	Thr	Pro	His	Ile	Phe	Ile	Ser	Asp	Tyr	Lys		
			30					35					40				
ATA	ATA	TAT	TCT	GGA	AAA	CAC	TGG	AAA	ATA	CAT						179	
Ile	Ile	Tyr	Ser	Gly	Lys	His	Trp	Lys	Ile	His							
			45					50									

FIGURE 1

GTCTAAACA	AAATACAACA	TTTCTTAAAT	ACACTGTTTC	CAGAAAGAGC	TATTTTAACA	60
GAAGCAACTC	AAAGATATCC	CTTCGACAGA	AGTGGAAGTG	CTGAAAAATG	CTCATCTCTC	120
ACACAGACTT	TTGATGGACA	GGAGTTTCTA	AGTATCATGC	CTACCAACAA	GCTGTAAA	178
ATG ATC ACC CTG AAC AAT CAA GAT CAA CCT GTC CCT TTT AAC AGC TCA	226					
Met Ile Thr Leu Asn Asn Gln Asp Gln Pro Val Pro Phe Asn Ser Ser						
1 5 10 15						
CAT CCA GAT GAA TAC AAA ATT GCA GCC CTT GTC TTC TAT AGC TGT ATC	274					
His Pro Asp Glu Tyr Lys Ile Ala Ala Leu Val Phe Tyr Ser Cys Ile						
20 25 30						
TTC ATA ATT GGA TTA TTT GTT AAC ATC ACT GCA TTA TGG GTT TTC AGT	322					
Phe Ile Ile Gly Leu Phe Val Asn Ile Thr Ala Leu Trp Val Phe Ser						
35 40 45						
TGT ACC ACC AAG AAG AGA ACC ACG GTA ACC ATC TAT ATG ATG AAT GTG	370					
Cys Thr Thr Lys Lys Arg Thr Thr Val Thr Ile Tyr Met Met Asn Val						
50 55 60						
GCA TTA GTG GAC TTG ATA TTT ATA ATG ACT TTA CCC TTT CGA ATG TTT	418					
Ala Leu Val Asp Leu Ile Phe Ile Met Thr Leu Pro Phe Arg Met Phe						
65 70 75 80						
TAT TAT GCA AAA GAT GCA TGG CCA TTT GGA GAG TAC TTC TGC CAG ATT	466					
Tyr Tyr Ala Lys Asp Ala Trp Pro Phe Gly Glu Tyr Phe Cys Gln Ile						
85 90 95						
ATT GGA GCT CTC ACA GTG TTT TAC CCA AGC ATT GCT TTA TGG CTT CTT	514					
Ile Gly Ala Leu Thr Val Phe Tyr Pro Ser Ile Ala Leu Trp Leu Leu						
100 105 110						
GCC TTT ATT AGT GCT GAC AGA TAC ATG GCC ATT GTA CAG CCG AAG TAC	562					
Ala Phe Ile Ser Ala Asp Arg Tyr Met Ala Ile Val Gln Pro Lys Tyr						
115 120 125						
GCC AAA GAA CTT AAA AAC ACG TGC AAA GCC GTG CTG GCG TGT GTG GGA	610					
Ala Lys Glu Leu Lys Asn Thr Cys Lys Ala Val Leu Ala Cys Val Gly						
130 135 140						
GTC TGG ATA ATG ACC CTG ACC ACG ACC ACC CCT CTG CTA CTG CTC TAT	658					
Val Trp Ile Met Thr Leu Thr Thr Thr Pro Leu Leu Leu Leu Tyr						
145 150 155 160						
AAA GAC CCA GAT AAA GAC TCC ACT CCC GCC ACC TGC CTC AAG ATT TCT	706					
Lys Asp Pro Asp Lys Asp Ser Thr Pro Ala Thr Cys Leu Lys Ile Ser						
165 170 175						

FIGURE 2A

GAC ATC ATC TAT CTA AAA GCT GTG AAC GTG CTG AAC CTC ACT CGA CTG	754
Asp Ile Ile Tyr Leu Lys Ala Val Asn Val Leu Asn Leu Thr Arg Leu	
180 185 190	
ACA TTT TTT TTC TTG ATT CCT TTG TTC ATC ATG ATT GGG TGC TAC TTG	802
Thr Phe Phe Phe Leu Ile Pro Leu Phe Ile Met Ile Gly Cys Tyr Leu	
195 200 205	
GTC ATT ATT CAT AAT CTC CTT CAC GGC AGG ACG TCT AAG CTG AAA CCC	850
Val Ile Ile His Asn Leu Leu His Gly Arg Thr Ser Lys Leu Lys Pro	
210 215 220	
AAA GTC AAG GAG AAG TCC ATA AGG ATC ATC ATC ACG CTG CTG GTG CAG	898
Lys Val Lys Glu Lys Ser Ile Arg Ile Ile Ile Thr Leu Leu Val Gln	
225 230 235 240	
GTG CTC GTC TGC TTT ATG CCC TTC CAC ATC TGT TTC GCT TTC CTG ATG	946
Val Leu Val Cys Phe Met Pro Phe His Ile Cys Phe Ala Phe Leu Met	
245 250 255	
CTG GGA ACG GGG GAG AAC AGT TAC AAT CCC TGG GGA GCC TTT ACC ACC	994
Leu Gly Thr Gly Glu Asn Ser Tyr Asn Pro Trp Gly Ala Phe Thr Thr	
260 265 270	
TTC CTC ATG AAC CTC AGC ACG TGT CTG GAT GTG ATT CTC TAC TAC ATC	1042
Phe Leu Met Asn Leu Ser Thr Cys Leu Asp Val Ile Leu Tyr Tyr Ile	
275 280 285	
GTT TCA AAA CAA TTT CAG GCT CGA GTC ATT AGT GTC ATG CTA TAC CGT	1090
Val Ser Lys Gln Phe Gln Ala Arg Val Ile Ser Val Met Leu Tyr Arg	
290 295 300	
AAT TAC CTT CGA AGC ATG CGC AGA AAA AGT TTC CGA TCT GGT AGT CTA	1138
Asn Tyr Leu Arg Ser Met Arg Arg Lys Ser Phe Arg Ser Gly Ser Leu	
305 310 315 320	
CGG TCA CTA AGC AAT ATA AAC AGT GAA ATG TTA TGAATAATAA GGTTCTTTCA	1191
Arg Ser Leu Ser Asn Ile Asn Ser Glu Met Leu	
325 330	
TTTCAATCCC ATCAAAATTC ACTTCACTAA CTACTCTGGC GTCAATGGAT ATTCTGTATA	1251
ATACTATCAA GTCCCTTTTC TCTTGAAAAA ATAAATTCAT TATCTTCATT TTAAAAACTT	1311
AAA	1314

FIGURE 2B

ATTCGGCTTA CTCACTATAG GGCTCGAGCG GCGCCCGGGC AGGTCAAGAC TGCTCCTCTC	60
TGCCGACTAC AACAGATTGG AGCC ATG GCT TTG GAA CAG AAC CAG TCA ACA	111
Met Ala Leu Glu Gln Asn Gln Ser Thr	
1 5	
GAT TAT TAT TAT GAG GAA AAT GAA ATG AAC GGC ACT TAT GAC TAC AGT	159
Asp Tyr Tyr Tyr Glu Glu Asn Glu Met Asn Gly Thr Tyr Asp Tyr Ser	
10 15 20 25	
CAA TAT GAA CTG ATC TGT ATC AAA GAA GAT GTC AGA GAA TTT GCA AAA	207
Gln Tyr Glu Leu Ile Cys Ile Lys Glu Asp Val Arg Glu Phe Ala Lys	
30 35 40	
GTT TTC CTC CCT GTA TTC CTC ACA ATA GTT TTC GTC ATT GGA CTT GCA	255
Val Phe Leu Pro Val Phe Leu Thr Ile Val Phe Val Ile Gly Leu Ala	
45 50 55	
GGC AAT TCC ATG GTA GTG GCA ATT TAT GCC TAT TAC AAG AAA CAG AGA	303
Gly Asn Ser Met Val Val Ala Ile Tyr Ala Tyr Tyr Lys Lys Gln Arg	
60 65 70	
ACC AAA ACA GAT GTG TAC ATC CTG AAT TTG GCT GTA GCA GAT TTA CTC	351
Thr Lys Thr Asp Val Tyr Ile Leu Asn Leu Ala Val Ala Asp Leu Leu	
75 80 85	
CTT CTA TTC ACT CTG CCT TTT TGG GCT GTT AAT GCA GTT CAT GGG TGG	399
Leu Leu Phe Thr Leu Pro Phe Trp Ala Val Asn Ala Val His Gly Trp	
90 95 100 105	
GTT TTA GGG AAA ATA ATG TGC AAA ATA ACT TCA GCC TTG TAC ACA CTA	447
Val Leu Gly Lys Ile Met Cys Lys Ile Thr Ser Ala Leu Tyr Thr Leu	
110 115 120	
AAC TTT GTC TCT GGA ATG CAG TTT CTG GCT TGT ATC AGC ATA GAC AGA	495
Asn Phe Val Ser Gly Met Gln Phe Leu Ala Cys Ile Ser Ile Asp Arg	
125 130 135	
TAT GTG GCA GTA ACT AAA GTC CCC AGC CAA TCA GGA GTG GGA AAA CCA	543
Tyr Val Ala Val Thr Lys Val Pro Ser Gln Ser Gly Val Gly Lys Pro	
140 145 150	
TGC TGG ATC ATC TGT TCC TGT GTC TGG ATG GCT GCC ATC TTG CTG AGC	591
Cys Trp Ile Ile Cys Ser Cys Val Trp Met Ala Ala Ile Leu Leu Ser	
155 160 165	

FIGURE 3A

ATA CCC CAG CTG GTT TTT TAT ACA GTA AAT GAC AAT GCT AGG TGC ATT Ile Pro Gln Leu Val Phe Tyr Thr Val Asn Asp Asn Ala Arg Cys Ile 170 175 180 185	639
CCC ATT TTC CCC CGC TAC CTA AGA ACA TCA ATG AAA GCA TTG ATT CAA Pro Ile Phe Pro Arg Tyr Leu Arg Thr Ser Met Lys Ala Leu Ile Gln 190 195 200	687
ATG CTA GAG ATC TGC ATT GGA TTT GTA GTA CCC TTT CTT ATT ATG GGG Met Leu Glu Ile Cys Ile Gly Phe Val Val Pro Phe Leu Ile Met Gly 205 210 215	735
GTG TGC TAC TTT ATC ACA GCA AGG ACA CTC ATG AAG ATG CCA AAC ATT Val Cys Tyr Phe Ile Thr Ala Arg Thr Leu Met Lys Met Pro Asn Ile 220 225 230	783
AAA ATA TCT CGA CCC CTA AAA GTT CTG CTC ACA GTC GTT ATA GTT TTC Lys Ile Ser Arg Pro Leu Lys Val Leu Leu Thr Val Val Ile Val Phe 235 240 245	831
ATT GTC ACT CAA CTG CCT TAT AAC ATT GTC AAG TTC TGC CGA GCC ATA Ile Val Thr Gln Leu Pro Tyr Asn Ile Val Lys Phe Cys Arg Ala Ile 250 255 260 265	879
GAC ATC ATC TAC TCC CTG ATC ACC AGC TGC AAC ATG AGC AAA CGC ATG Asp Ile Ile Tyr Ser Leu Ile Thr Ser Cys Asn Met Ser Lys Arg Met 270 275 280	927
GAC ATC GCC ATC CAA GTC ACA GAA AGC ATC GCA CTC TTT CAC AGC TGC Asp Ile Ala Ile Gln Val Thr Glu Ser Ile Ala Leu Phe His Ser Cys 285 290 295	975
CTC AAC CCA ATC CTT TAT GTT TTT ATG GGA GCA TCT TTC AAA AAC TAC Leu Asn Pro Ile Leu Tyr Val Phe Met Gly Ala Ser Phe Lys Asn Tyr 300 305 310	1023
GTT ATG AAA GTG GCC AAG AAA TAT GGG TCC TGG AGA AGA CAG AGA CAA Val Met Lys Val Ala Lys Lys Tyr Gly Ser Trp Arg Arg Gln Arg Gln 315 320 325	1071
AGT GTG GAG GAG TTT CCT TTT GAT TCT GAG GGT CCT ACA GAG CCA ACC Ser Val Glu Glu Phe Pro Phe Asp Ser Glu Gly Pro Thr Glu Pro Thr 330 335 340 345	1119
AGT ACT TTT AGC ATT TAAAGGTAAA ACTGCTCTGC CTTTGTCTTG GATACATATG Ser Thr Phe Ser Ile 350	1174
AATGATGCTT TCCCCTCAAA TAAACATCT GCATTATTCT GAAACTCAAA TCTCAGACGC	1234
CGTGGTTGCA ACTTATAATA AAGAATGGGT TGGGGGAAGG GGGAGAAATA AAAGCCAAGA	1294
AGAAGAAACA AGATAATAAA TGTACAAAAC ATGAAAATTA AAATGAACAA TATAGGAAAA	1354

FIGURE 3B

TAATTGTAAC AGGCATAAGT GAATAACACT CTGCTGTAAC GAAGAAAACT TTGTGGTGAT 1414  
AATTTTGTAT CTTGGTTGCA GTGGTGCTTA TACCAATCTA CACCAGTGAT AAAATGACCC 1474  
AGAACTATTT CCCCCCTTGT TCCCATTTCA ATTTCCTGGT TTTGACATTA TAGTATAATT 1534  
ATGTTAGATG GAACC 1549

FIGURE 3C

GATGCATGCT CGAGCGGCCG CCAGTGTGAT GGATATCTGC AGAATTCGGC TTACTCACTA	60
TAGGGCTCGA GCGGCCGCCC GGGCAGGTCC CTCCAACAAG ACGCAGCACA GAGACACCAC	120
CTACCTAACA CAGGCGACTC TGAGCACTCT CTCTCTGGGA CTGGGCAGAG CGGCAAACGG	180
TCACCTCTCA GACAGCCTTT GACAGACAGG AGGTTCTACA TACCATGGGA GCCAGCCTGC	240
TGTAAGATGG CCACCCTGAG CAATCACAAC CAGCTTGATC TTTCTAATGG CTCACACCCA	300
GAGGAATACA AAATCGCAGC CCTAGTCTTC TACAGCTGCA TCTTCCTGAT TGGGCTGTTT	360
GTTAATGTCA CTGCGTTGTG GGTTTTTCAGC TGTACGACCA AGAAAAGAAC ACAGTGACCA	420
TCTACATG ATG AAC GTT GCA CTA CTG GAC CTC GTA TTT ATA CTC AGT CTG	470
Met Asn Val Ala Leu Leu Asp Leu Val Phe Ile Leu Ser Leu	
1 5 10	
CCC TTT CGG ATG TTT TAC TAT GCA AAA GGC GAG TGG CCA TTT GGA GAG	518
Pro Phe Arg Met Phe Tyr Tyr Ala Lys Gly Glu Trp Pro Phe Gly Glu	
15 20 25 30	
TAC TTC TGC CAC ATT CTT GGG GCC CTG GTG GTG TTT TAC CCA AGC CTC	566
Tyr Phe Cys His Ile Leu Gly Ala Leu Val Val Phe Tyr Pro Ser Leu	
35 40 45	
GCT CTG TGG CTT CTT GCT TTC ATT AGT GCT GAC AGA TAC ATG GCC ATC	614
Ala Leu Trp Leu Leu Ala Phe Ile Ser Ala Asp Arg Tyr Met Ala Ile	
50 55 60	
GTA CAG CCA AAA TAT GCC AAG GAG CTG AAG AAC ACC GGC AAG GCC GTG	662
Val Gln Pro Lys Tyr Ala Lys Glu Leu Lys Asn Thr Gly Lys Ala Val	
65 70 75	
CTT GCG TGT GGG GGG GTC TGG GTA ATG ACC CTG ACC ACC ACT GTC CCC	710
Leu Ala Cys Gly Gly Val Trp Val Met Thr Leu Thr Thr Thr Val Pro	
80 85 90	
CTG CTA CTG CTC TAC GAA GAC CCA GAC AAT GCC TCC TCC CCG GCC ACC	758
Leu Leu Leu Leu Tyr Glu Asp Pro Asp Asn Ala Ser Ser Pro Ala Thr	
95 100 105 110	
TGC CTG AAG ATC TCC GAC ATC ACC CAC TTA AAA GCT GTC AAC GTG CTC	806
Cys Leu Lys Ile Ser Asp Ile Thr His Leu Lys Ala Val Asn Val Leu	
115 120 125	
AAC TTC ACG CGA CTC ATA TTT TTC TTC CTG ATC CCT TTG TTC ATC ATG	854
Asn Phe Thr Arg Leu Ile Phe Phe Phe Leu Ile Pro Leu Phe Ile Met	
130 135 140	

FIGURE 4A

ATC GGG TGC TAC GTG GTC ATC ATT CAC AGT CTC CTC CGA GGG CAG ACG	902
Ile Gly Cys Tyr Val Val Ile Ile His Ser Leu Leu Arg Gly Gln Thr	
145 150 155	
TCT AAG CTG AAG CCC AAG GTC AAG GAG AAG TCC ATA CGG ATC ATC ATG	950
Ser Lys Leu Lys Pro Lys Val Lys Glu Lys Ser Ile Arg Ile Ile Met	
160 165 170	
ACC CTC CTG CTG CAG GTG CTC GTC TGC TTC GTG CCC TTC CAC ATC TGC	998
Thr Leu Leu Leu Gln Val Leu Val Cys Phe Val Pro Phe His Ile Cys	
175 180 185 190	
TTT GCC GTC CTG ATG CTA CAA GGA CAG GAG AAC AGC TAT AGC CCC TGG	1046
Phe Ala Val Leu Met Leu Gln Gly Gln Glu Asn Ser Tyr Ser Pro Trp	
195 200 205	
GGA GCC TTC ACC ACC TTC CTC ATG AAC CTC AGC ACC TGT CTC GAT GTA	1094
Gly Ala Phe Thr Thr Phe Leu Met Asn Leu Ser Thr Cys Leu Asp Val	
210 215 220	
GTC CTC TAC TAC ATC GTT TCC AAA CAG TTC CAG GCT CGA GTC ATC AGC	1142
Val Leu Tyr Tyr Ile Val Ser Lys Gln Phe Gln Ala Arg Val Ile Ser	
225 230 235	
GTC ATG CTG TAC CGC AAT TAC CTT CGC AGT GTT CGC AGA AAA AGT GTC	1190
Val Met Leu Tyr Arg Asn Tyr Leu Arg Ser Val Arg Arg Lys Ser Val	
240 245 250	
CGA TCG GGC AGT TTA CGG TCA CTT AGC AAC ATG AAC AGT GAG ATG CTT	1238
Arg Ser Gly Ser Leu Arg Ser Leu Ser Asn Met Asn Ser Glu Met Leu	
255 260 265 270	
TGAGTCAGAG CAAGCTGCCA GTCTTCAGTC TCTTT	1273

FIGURE 4B



G CTA CAA GGA CAG GAG AAC AGC TAT AGC CCC TGG GGA GCC TTC ACC	46
Leu Gln Gly Gln Glu Asn Ser Tyr Ser Pro Trp Gly Ala Phe Thr	
1 5 10 15	
ACC TTC CTC ATG AAC CTC AGC ACC TGT CTC GAT GTA GTC CTC TAC TAC	94
Thr Phe Leu Met Asn Leu Ser Thr Cys Leu Asp Val Val Leu Tyr Tyr	
20 25 30	
ATC GTT TCC AAA CAG TTC CAG GCT CGA GTC ATC AGC GTC ATG CTG TAC	142
Ile Val Ser Lys Gln Phe Gln Ala Arg Val Ile Ser Val Met Leu Tyr	
35 40 45	
CGC AAT TAC CTT CGC AGT GTT CGC AGA AAA AGT GTC CGA TCG GGC AGT	190
Arg Asn Tyr Leu Arg Ser Val Arg Arg Lys Ser Val Arg Ser Gly Ser	
50 55 60	
TTA CGG TCA CTT AGC AAC ATG AAC AGT GAG ATG CTT TGAGTCAGAG	236
Leu Arg Ser Leu Ser Asn Met Asn Ser Glu Met Leu	
65 70 75	
CAAGCTGCCA GTCTTCAGTC TCTTTAAAAT TCTTTTCCTA TCTACTTTCG GGTGAACCAG	296
CATTCTACAC TATCCAGTCC CTTCTCTAAC AAAGAGAAAT AATAATGATG AACTTTAAAA	356
ACTTCTGCGG TATTCTGTGT ATTCTAGCCA CATGATTAAA AACT	400

FIGURE 5

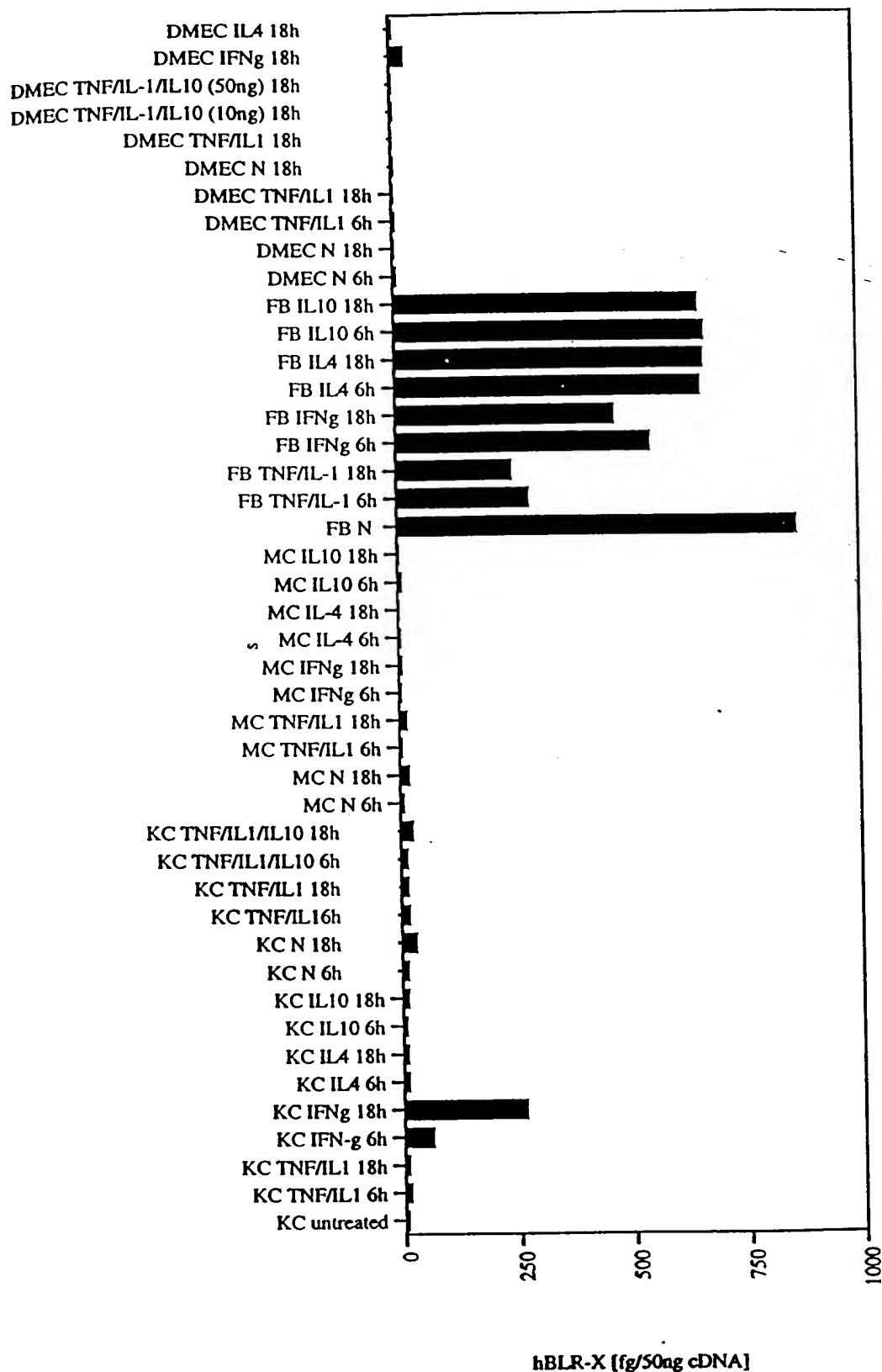


Fig. 6

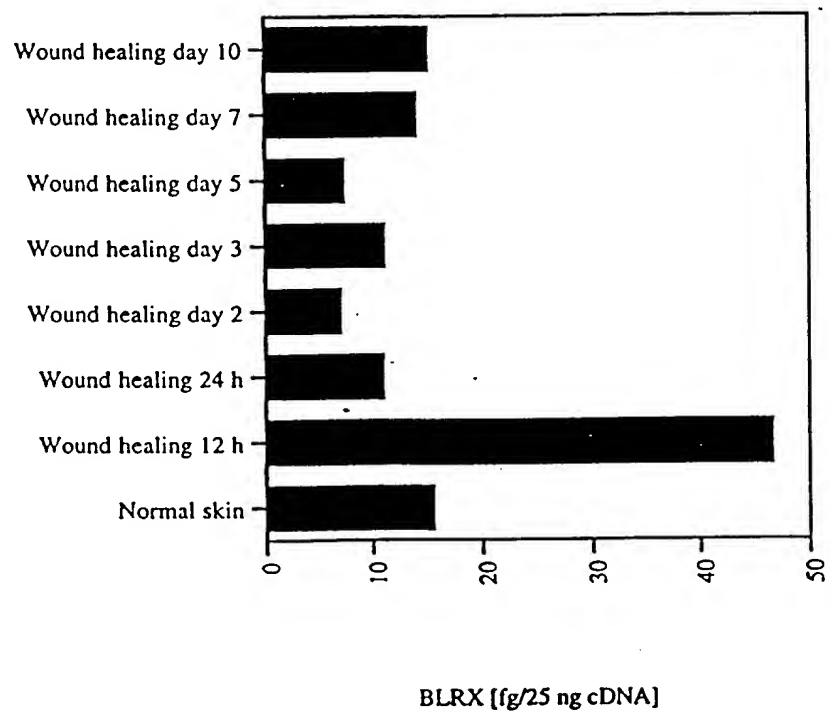


Fig. 7